

WHAT IS CLAIMED IS:

1. A communications system, comprising:  
a mobile unit operable to transmit content;  
a plurality of base transceiver stations, each base transceiver station operable  
5 to:  
receive the content from the mobile unit;  
determine a value for a metric associated with communications  
between the mobile unit and the base transceiver station;  
generate a graded packet including the value and the content; and  
10 communicate the graded packet; and  
a router operable to:  
receive redundant graded packets generated at the base transceiver  
stations;  
combine different portions of the content from each of two or more of  
15 the graded packets to create an improved packet, the different portions from the  
graded packets collectively representing the entirety of the content such that the  
improved packet includes the entirety of the content; and  
communicate the improved packet.  
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2. The system of Claim 1, wherein the router is further operable to:  
determine that portions of the content in two or more of the graded packets  
include errors created during communication of the content; and  
combine different errorless portions of the content from each of two or more  
graded packets to create the improved packet, the content of the improved packet  
25 having fewer errors than the content included in the graded packets.
3. The system of Claim 1, wherein the router is further operable to:  
evaluate each corresponding bit in two or more graded packets;  
estimate the correct value of each bit based on the evaluation; and  
30 generate an improved packet including the estimated correct value for each bit.

4. The system of Claim 3, wherein evaluating each corresponding bit comprises performing an exclusive-or operation on the corresponding bits.

5. The system of Claim 1, wherein the router is further operable to:  
5 select two or more of the graded packets based on the value included in each graded packet; and  
combine different portions of the content from two or more of the selected packets to create the improved packet.

10 6. The system of Claim 1, wherein the mobile unit is operable to transmit a packet that includes the content.

7. The system of Claim 1, wherein the content comprises voice content received from a user of the mobile unit.

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8. A network device, comprising:

an interface operable to receive a plurality of redundant graded packets from a plurality of base transceiver stations, wherein the graded packets include a content received from a mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the mobile unit and the base transceiver station; and

a processor operable to combine different portions of the content from each of two or more of the graded packets to create an improved packet, the different portions from the graded packets collectively representing the entirety of the content such that the improved packet includes the entirety of the content.

9. The network device of Claim 8, wherein the processor is further operable to:

determine that portions of the content in two or more of the graded packets include errors created during communication of the content; and

combine different errorless portions of the content from each of two or more graded packets to create the improved packet, the content of the improved packet having fewer errors than the content included in the graded packets.

10. The network device of Claim 8, wherein the processor is further operable to:

evaluate each corresponding bit in two or more graded packets;

estimate the correct value of each bit based on the evaluation; and

generate an improved packet including the estimated correct value for each bit.

11. The network device of Claim 10, wherein evaluating each corresponding bit comprises performing an exclusive-or operation on the corresponding bits.

12. The network device of Claim 8, wherein the processor is further operable to:

select two or more of the graded packets based on the value included in each graded packet; and

5 combine different portions of the content from two or more of the selected packets to create the improved packet.

13. The network device of Claim 8, wherein the content comprises voice content received from a user of the mobile unit.

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14. A method of creating an improved packet, comprising:

5 receiving a plurality of redundant graded packets from a plurality of base transceiver stations, wherein the graded packets include a content received from a mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the mobile unit and the base transceiver station; and

10 combining different portions of the content from each of two or more of the graded packets to create an improved packet, the different portions from the graded packets collectively representing the entirety of the content such that the improved packet includes the entirety of the content.

15 15. The method of Claim 14, further comprising:

determining that portions of the content in two or more of the graded packets include errors created during communication of the content; and

15 combining different errorless portions of the content from each of two or more graded packets to create the improved packet, the content of the improved packet having fewer errors than the content included in the graded packets.

20 16. The method of Claim 14, further comprising:

evaluating each corresponding bit in two or more graded packets;

estimating the correct value of each bit based on the evaluation; and

generating an improved packet including the estimated correct value for each bit.

25 17. The method of Claim 16, wherein evaluating each corresponding bit comprises performing an exclusive-or operation on the corresponding bits.

selecting two or more of the graded packets based on the value included in each graded packet; and

19. The method of Claim 14, wherein the content comprises voice content received from a user of the mobile unit.

19. The method of Claim 14, wherein the content comprises voice content

received from a user of the mobile unit.

20. Software for creating an improved packet, the software embodied in a computer-readable medium and operable to:

receive a plurality of redundant graded packets from a plurality of base transceiver stations, wherein the graded packets include a content received from a mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the mobile unit and the base transceiver station; and

combine different portions of the content from each of two or more of the graded packets to create an improved packet, the different portions from the graded packets collectively representing the entirety of the content such that the improved packet includes the entirety of the content.

21. The software of Claim 20, further operable to:

determine that portions of the content in two or more of the graded packets include errors created during communication of the content; and

combine different errorless portions of the content from each of two or more graded packets to create the improved packet, the content of the improved packet having fewer errors than the content included in the graded packets.

22. The software of Claim 20, further operable to:

evaluate each corresponding bit in two or more graded packets;

estimate the correct value of each bit based on the evaluation; and

generate an improved packet including the estimated correct value for each bit.

23. The software of Claim 22, wherein evaluating each corresponding bit comprises performing an exclusive-or operation on the corresponding bits.

25. The software of Claim 20, wherein the content comprises voice content received from a user of the mobile unit.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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26. A network device, comprising:

means for receiving a plurality of redundant graded packets from a plurality of base transceiver stations, wherein the graded packets include a content received from a mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the mobile unit and the base transceiver station; and

means for combining different portions of the content from each of two or more of the graded packets to create an improved packet, the different portions from the graded packets collectively representing the entirety of the content such that the improved packet includes the entirety of the content.

27. The network device of Claim 26, further comprising:

means for determining that portions of the content in two or more of the graded packets include errors created during communication of the content; and

means for combining different errorless portions of the content from each of two or more graded packets to create the improved packet, the content of the improved packet having fewer errors than the content included in the graded packets.

28. The network device of Claim 26, further comprising:

means for evaluating each corresponding bit in two or more graded packets;

means for estimating the correct value of each bit based on the evaluation; and

means for generating an improved packet including the estimated correct value for each bit.

29. The network device of Claim 28, wherein evaluating each corresponding bit comprises performing an exclusive-or operation on the corresponding bits.

30. The network device of Claim 26, further comprising:
- means for selecting two or more of the graded packets based on the value included in each graded packet; and
- means for combining different portions of the content from two or more of the selected packets to create the improved packet.
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31. The network device of Claim 26, wherein the content comprises voice content received from a user of the mobile unit.

32. A communications system, comprising:

a first mobile unit operable to transmit a first content;

a second mobile unit operable to transmit a second content;

a plurality of base transceiver stations, each base transceiver station operable

5 to:

receive the content from at least one of the mobile units;

determine a value for a metric associated with communications  
between the mobile unit and the base transceiver station;

generate a graded packet including the value and the content; and

10 communicate the graded packet; and

one or more routers collectively operable to:

receive a plurality of first graded packets including the first content  
and a plurality of second graded packets including the second content;

15 select one of the first graded packets based on the values included in  
the first graded packets;

select one of the second graded packets based on the values included in  
the second graded packets;

20 mix the first content of the selected first graded packet and the second  
content of the selected second graded packet to create a mixed packet including the  
first and second contents; and

communicate the mixed packet.

33. The system of Claim 32, wherein the selecting steps and the mixing  
step are performed by a single router.

25 34. The system of Claim 32, wherein the selecting steps and the mixing  
step are performed by multiple routers.

35. The system of Claim 32, wherein the one or more routers comprise:  
a first router operable to:

receive the plurality of first graded packets and the plurality of second  
graded packets;

5                   select one of the first graded packets based on the values included in  
the first graded packets;

select one of the second graded packets based on the values included in  
the second graded packets; and

communicate the selected packets; and

10                  a second router operable to:

receive the selected packets;

mix the first content of the selected first graded packet and the second  
content of the selected second graded packet to create a mixed packet including the  
first and second contents; and

15                  communicate the mixed packet.

36. The system of Claim 32, further comprising:

a third mobile unit operable to transmit a third content to a plurality of the  
base transceiver stations; and

20                  an additional router operable to:

receive a plurality of third graded packets including the third content;

select one of the third graded packets based on the values included in  
the third graded packets;

receive a first mixed packet including the first and second content;

25                  mix the third content of the selected third graded packet and the first  
and second content to create a second mixed packet including the first, second, and  
third contents; and

communicate the second mixed packet.

37. The system of Claim 32, wherein:

the first mobile unit is operable to transmit a packet that includes the first content; and

the second mobile unit is operable to transmit a packet that includes the second content.

38. The system of Claim 32, wherein:

the first content comprises voice content received from a user of the first mobile unit;

the second content comprises voice content received from a user of the second mobile unit; and

the first and second mobile units are participating in a conference call.

39. A network device, comprising:  
an interface operable to:

receive a plurality of first graded packets from two or more of a plurality of base transceiver stations, wherein the first graded packets include a first content received from a first mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the first mobile unit and the base transceiver station;

receive a plurality of second graded packets from two or more of the plurality of base transceiver stations, wherein the second graded packets include a second content received from a second mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the second mobile unit and the base transceiver station;

a processor operable to:

select one of the first graded packets based on the values included in the first graded packets;

select one of the second graded packets based on the values included in the second graded packets;

mix the first content of the selected first graded packet and the second content of the selected second graded packet to create a mixed packet including the first and second contents; and

communicate the mixed packet.

40. The network device of Claim 39, wherein:

the first content comprises voice content received from a user of the first mobile unit;

the second content comprises voice content received from a user of the second mobile unit; and

the first and second mobile units are participating in a conference call.

41. A method for mixing packets, comprising:

receiving a plurality of first graded packets from two or more of a plurality of base transceiver stations, wherein the first graded packets include a first content received from a first mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the first mobile unit and the base transceiver station;

receiving a plurality of second graded packets from two or more of the plurality of base transceiver stations, wherein the second graded packets include a second content received from a second mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the second mobile unit and the base transceiver station;

selecting one of the first graded packets based on the values included in the first graded packets;

selecting one of the second graded packets based on the values included in the second graded packets;

mixing the first content of the selected first graded packet and the second content of the selected second graded packet to create a mixed packet including the first and second contents; and

communicating the mixed packet.

42. The method of Claim 41, wherein:

the first content comprises voice content received from a user of the first mobile unit;

the second content comprises voice content received from a user of the second mobile unit; and

the first and second mobile units are participating in a conference call.

43. Software for mixing packets, the software embodied in a computer-readable medium and operable to:

5 receive a plurality of first graded packets from two or more of a plurality of base transceiver stations, wherein the first graded packets include a first content received from a first mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the first mobile unit and the base transceiver station;

10 receive a plurality of second graded packets from two or more of the plurality of base transceiver stations, wherein the second graded packets include a second content received from a second mobile unit and a value for a metric generated by each base transceiver station, the metric associated with communications between the second mobile unit and the base transceiver station;

15 select one of the first graded packets based on the values included in the first graded packets;

20 select one of the second graded packets based on the values included in the second graded packets;

mix the first content of the selected first graded packet and the second content of the selected second graded packet to create a mixed packet including the first and second contents; and

communicate the mixed packet.

44. The software of Claim 43, wherein:

25 the first content comprises voice content received from a user of the first mobile unit;

the second content comprises voice content received from a user of the second mobile unit; and

the first and second mobile units are participating in a conference call.



45. A network device, comprising:

means for receiving a plurality of first graded packets from two or more of a plurality of base transceiver stations, wherein the first graded packets include a first content received from a first mobile unit and a value for a metric generated by each  
5 base transceiver station, the metric associated with communications between the first mobile unit and the base transceiver station;

means for receiving a plurality of second graded packets from two or more of the plurality of base transceiver stations, wherein the second graded packets include a second content received from a second mobile unit and a value for a metric generated  
10 by each base transceiver station, the metric associated with communications between the second mobile unit and the base transceiver station;

means for selecting one of the first graded packets based on the values included in the first graded packets;

means for selecting one of the second graded packets based on the values  
15 included in the second graded packets;

means for mixing the first content of the selected first graded packet and the second content of the selected second graded packet to create a mixed packet including the first and second contents; and

means for communicating the mixed packet.  
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46. The network device of Claim 45, wherein:

the first content comprises voice content received from a user of the first mobile unit;

the second content comprises voice content received from a user of the second  
25 mobile unit; and

the first and second mobile units are participating in a conference call.